MCF 3M Opener

Beth wants to plant a garden at the back of her house. She has 32m of fencing. The area that can be enclosed is modeled by the function $A(x) = -2x^2 + 32x$, where x is the width of the garden in metres and A(x) is the area in square metres. What is the maximum area that can be enclosed?

Mar 26-8:23 AM

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Vertex

$A(x) = -2x^2 + 32x$

$A(x) = -2(x^2 - 16x)$

$A(x) = -2(x^2 - 16x + 64 - 64)$ $\left(\frac{16}{2}\right)^2 = 64$

$A(x) = -2[(x-8)^2 - 64]$

$A(x) = -2(x-8)^2 + 128$

$(8, 128)$

At a width of 8m the maximum area will be $128m^2$.

Mar 26-8:23 AM

- Written Paragraph Structure

Introduction Sentence – what will your paragraph discuss? Use the words from your question to help formulate a specific, on topic sentence

BODY

- Supporting point #1
- Supporting point #2
- Supporting point #3

Concluding Sentence – sums up the main idea of the paragraph.

- Unity: is your paragraph on topic/communicating about 1 idea only?
  - Coherence: Is your paragraph logical?

Written Math Structure

Introduction – (a) state your knowns & unknowns (given or inferred, including units); (b) state your formulas, draw a diagram or graph

BODY Substitute & Solve

Formula

=substitution

=evaluation

=solution/isolation

Concluding statement: Therefore statement including units.

•Expression of ideas: Is your response clear& organized, using oral, visual and/or written forms?

•Reasoning and Proving: is your response organized, analytical & well reasoned?

Oct 27-7:40 AM

2) $R(x) = -x^2 + 10x + 3000$

Price = $15 $R(x) = $ $x = $ # of times increase by 0.10

$R(x) = -(x^2 - 10x) + 3000$

$R(x) = -(x^2 - 10x + 25 - 25) + 3000$

$R(x) = -[(x-5)^2 - 25] + 3000$

$R(x) = -(x-5)^2 + 25 + 3000$

$R(x) = -(x-5)^2 + 3025$

$(5, 3025)$

To max revenue at $3025 the hardware should raise her price 5 times. ($5.50)

Apr 1-11:29 AM

3) $h(t) = -4.9t^2 + 1.5t + 17$

$h(t) = 5$ Roots

$5 = -4.9t^2 + 1.5t + 17$

$0 = -4.9t^2 + 1.5t + 17 - 5$

$0 = -4.9t^2 + 1.5t + 12$ (÷10)

$0 = 49t^2 - 15t - 120$ (-10)

$a = 49$ $0 = 49t^2 - 15t - 120$

$b = -15$

$c = -120$

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$x = -1.4$ $x = 1.7$

-ve time

The diver reaches 5m in the air at 1.7 sec after the diver jumps.

Apr 1-11:35 AM

Population ques $t = 0$ (2000)

(b) $P(t) = 6t^2 + 110t + 4000$ P 240

2020 i.e. $t = 20$ $P(20) = 6(20)^2 + 110(20) + 4000 = 9600$

When will 6000

i) $6000 = 6t^2 + 110t + 4000$

$0 = 6t^2 + 110t + 4000 - 6000$

$0 = 6t^2 + 110t - 2000$

$a = 6$ $x = 11.3$ $x = -30$

$b = 110$

$c = -2000$

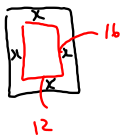
c) In 2011 the population will reach 6000 people It also reached 6000 people in 1970

(1970) (2020)

Graph is positive ∴ pop never 0 in the future

Apr 2-9:20 AM

State knowns – Introduction



$A = L \times w$

$A_T = 285$ (amount of concrete)

$x = ?$

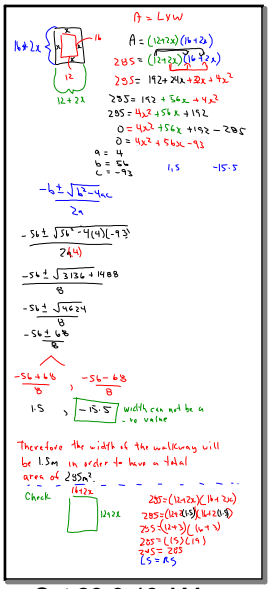
$A = l y w$

$12 \times 16 = 192$

$285 - 192 = 93$

$285 = l y w$

Oct 27-10:06 AM

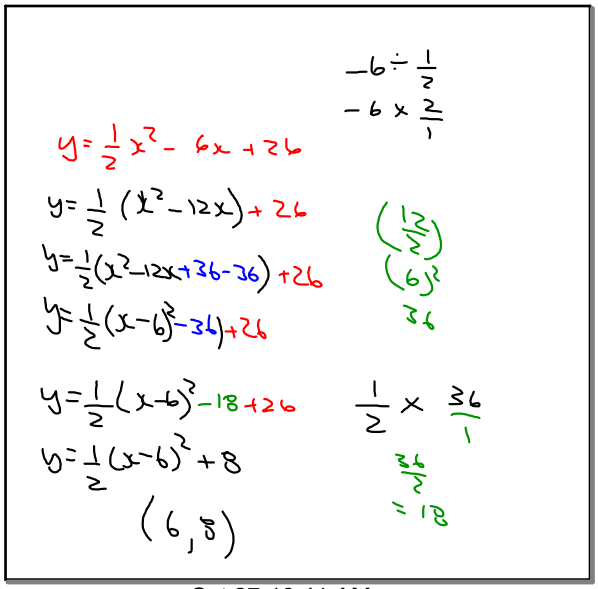


Oct 28-9:46 AM

HMK

p 254-255 q.1-10

Mar 26-8:22 AM



Oct 27-10:41 AM